

AMENDMENTS TO THE CLAIMS

1-39. (Cancelled)

40. (Currently Amended) A radiator comprising:

a thermal conductive layer comprising at least a partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical shape, defining a focal zone;

a radiation layer comprising at least a partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical shape, defining a focal zone and powered by an energy source;

the focal zone of the thermal conductive layer generally coincides with the focal zone of the radiation layer; and

a thermal insulation layer facing the thermal conductive layer.

41. (Previously Presented) The radiator of claim 40, wherein:

at least a portion of the radiation layer is in contact with at least a portion of the thermal conductive layer.

42. (Previously Presented) The radiator of claim 40, wherein:

the thermal insulation layer comprises a partially paraboloidal, ellipsoidal, hyperboloidal or spherical shape, defining a focal zone; and

the focal zone of the thermal insulation layer generally coincides with the focal zone of the radiation layer and the focal zone of the thermal conductive layer.

43. (Previously Presented) The radiator of any one of claims 40 to 42, wherein the thermal insulation layer comprises a concave side facing a convex side of the thermal conductive layer, so that the radiation element of the radiation layer increases temperature of the thermal conductive layer and concentrates energy to the focal zone of the radiation layer.

44. (Previously Presented) The radiator of claim 43 further comprising a plurality of optical fibers having a first end positioned at the focal zone of the radiation layer for receiving the energy, so that the optical fibers transmit the energy received at the first end to a second end of the optical fibers.

45. (Previously Presented) The radiator of claim 43, wherein the thermal insulation layer comprises a convex side facing a concave side of the thermal conductive layer, so that the radiation element of the radiation layer increases temperature of the thermal conductive layer and disperses energy away from the focal zone of the radiation layer.

46. (Previously Presented) The radiator of claim 43, further comprising a light bulb base coupled to the thermal insulation layer, wherein the base comprises positive and negative contactors electrically connected to the radiation layer, and wherein the base is adapted to be received in an electrical lamp socket.

47. (Previously Presented) The radiator of claim 43, wherein the thermal conductive layer comprises a metal oxide material.

48. (Previously Presented) The radiator of claim 43, wherein the radiation layer is positioned between the thermal insulation layer and the thermal conductive layer.

49. (Withdrawn) A radiator comprising:
a generally helical dome-shaped radiation member powered by an energy source; and
a generally dome-shaped reflection member comprising a reflective surface facing the radiation member.

50. (Withdrawn) The radiator of claim 49, wherein:
the generally helical dome-shaped radiation member defines a focal zone;
the generally dome-shaped reflection member defines a focal zone; and
the focal zone of the radiation member generally coincides with the focal zone of the reflection member.

51. (Withdrawn) The radiator of claim 49 or 50, wherein the reflective surface of the reflection member comprises a generally concave shape, and wherein the concave reflective surface of the reflection member faces a convex side of the radiation member, so that the radiation member concentrates energy to the focal zone of the radiation member.

52. (Withdrawn) The radiator of claim 49 or 50, wherein the reflective surface of the reflection member comprises a generally convex shape, and wherein the convex reflective surface of the reflection member faces a concave side of the radiation member, so that the radiation member disperses energy away from the focal zone of the radiation member.

53. (Withdrawn) The radiator of claim 49 or 50, wherein the generally helical dome-shaped radiation member comprises an electrical coil resistance covered by a thermal conductive material.

54. (Currently Amended) A radiator used with an astronomic apparatus comprising:
a partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical structure member defining a focal zone; and
a radiation layer power by an energy source, the radiation layer connected to the partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical structure member, wherein the radiation layer concentrates energy to the focal zone to achieve a temperature differential of the focal zone and an environment of the focal zone and the related radiation pressure provides thrust, torque, propulsion or other forces to the astronomic apparatus and/or an object.

55. (Currently Amended) The radiator used with an astronomic apparatus of claim 54, wherein:

the partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical structure comprises thermal conductive layer and a thermal insulation layer;

the thermal insulation layer comprises a concave side facing a convex side of the thermal conductive layer; and

the radiation layer comprises at least one radiation element embedded in at least a portion of the thermal conductive layer.

56. (Currently Amended) The radiator used with an astronomic apparatus of claim 54 or 55, wherein the radiation layer comprises a plurality of infrared radiation emitting devices positioned on the concave side of the partially ~~paraboloidal, ellipsoidal, hyperboloidal or~~ spherical structure member.

57. (Withdrawn) A radiator comprising:

a radiation member powered by an energy source; and

a reflection member comprising an at least partially ring-shaped concave reflective surface facing the radiation member for distributing energy to an at least partially ring-shaped area.

58. (Withdrawn) The radiator of claim 57, wherein the radiation member comprises an at least partial ring shape.

59. (Withdrawn) The radiator of claim 57, wherein the radiation member is positioned at a focal zone of the reflective surface.

60. (Withdrawn) The radiator of claim 57, wherein the reflection member has a generally ring shape.

61. (Withdrawn) The radiator of claim 57, wherein the radiation member has a generally ring shape.

62. (Withdrawn) The radiator of any one of claims 57 to 61, wherein at least a portion of the radiation member is turned towards and passes through an aperture or apertures on the concave reflective surface and stowed or secured within at least a recess of or behind the concave reflective surface.

63. (Withdrawn) The radiator of any one of claims 57 to 61, wherein at least a terminal of the radiation member is turned towards and passes through an aperture or apertures on the concave reflective surface and stowed or secured within at least a recess of or behind the concave reflective surface.

64. (Withdrawn) The radiator of any one of claims 57 to 61, wherein the radiation member comprises an electrical coil resistance covered by a thermal conductive material.

65. (Currently Amended) A radiator comprising:

a partially ~~paraboloidal, ellipsoidal, hyperboloidal~~ or spherical-shaped thermal conductive layer;

a radiation element being in contact with the thermal conductive layer; and

a partially ~~paraboloidal, ellipsoidal, hyperboloidal~~ spherical-shaped thermal insulation layer facing the thermal conductive layer.

66. (Previously Presented) The radiator of claim 65, wherein:
the thermal conductive layer defines a first focal zone;

the thermal insulation layer defines a second focal zone; and
the first focal zone generally coincides with the second focal zone.

67. (Previously Presented) The radiator of claim 66, wherein the thermal insulation layer comprises a concave side facing a convex side of the thermal conductive layer, so that the radiation element increases temperature of the thermal conductive layer and concentrates energy to the focal zone of the radiation layer.

68. (Previously Presented) The radiator of claim 67, further comprising a plurality of optical fibers having a first end positioned at the focal zone of the radiation layer for receiving the energy, so that the optical fibers transmit the energy received at the first end to a second end of the optical fibers.

69. (Previously Presented) The radiator of claim 68, wherein the optical fibers comprise a thermal conductive material.

70. (Previously Presented) The radiator of claim 68, wherein the optical fibers comprise a radiation material.

71. (Previously Presented) The radiator of claim 68, wherein the thermal insulation layer comprises a convex side facing a concave side of the thermal conductive layer, so that the radiation element increases temperature of the thermal conductive layer and disperses energy away from the focal zone of the radiation layer.

72. (Previously Presented) The radiator of any one of claims 65 to 68 further comprising a light bulb base coupled to the thermal insulation layer, wherein the base comprises positive and negative contactors electrically connected to the radiation element, and wherein the base is adapted to be received in an electrical lamp socket.

73. (Previously Presented) The radiator of any one of claims 65 to 68, wherein the thermal conductive layer comprises a metal oxide material.

74. (Previously Presented) The radiator of any one of claims 65 to 68, wherein the radiation element is positioned between the thermal insulation layer and the thermal conductive layer.

75. (Previously Presented) The radiator of any one of claims 65 to 68, wherein the radiation element is partially embedded in the thermal conductive layer.

76. (Previously Presented) The radiator of any one of claims 65 to 68, wherein the radiation element is completely embedded in the thermal conductive layer.

77. (Withdrawn) A radiator comprising:

an at least partially elliptical or circular reflective surface;

an at least partially elliptical or circular radiation member powered by an energy source, the radiation member generally positioned near or at a focal zone of the concave reflective surface, the reflective surface being concave for distributing energy to an at least partially elliptical or circular irradiated zone.

78. (Withdrawn) The radiator of claim 77, wherein the radiation member comprises an electrical coil resistance covered by a thermal conductive material.

79. (Withdrawn) The radiator of claim 77, wherein the reflection member has a generally elliptical or circular shape.

80. (Withdrawn) The radiator of claim 77, wherein the radiation member has a generally elliptical or circular shape.

81. (Withdrawn) The radiator of any of claims 77 to 80, wherein at least a portion of the radiation member is turned towards and passes through an aperture or apertures on the concave reflective surface and stowed or secured within at least a recess of or behind the concave reflective surface.

82. (Withdrawn) The radiator of any one of claims 77 to 80, wherein at least a terminal of the radiation member is turned towards and passes through an aperture or apertures on the concave reflective surface and stowed or secured within at least a recess of or behind the concave reflective surface.